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ABSTRACT:

PROBLEM TO BE SOLVED: To improve lighting effect and to enable cost reduction by reducing the number of parts and assembling man-hour.

SOLUTION: A lighting means 40 has lamps 52, 52 and reflector 57. Lamps 52, 52 are to irradiates converging light to the front of the tip end and diffusing light to side and placed along the placing plane against a drive board 35 in a inclined posture directing the tip end toward a symbol stop line. The reflector 57 is installed in the opposite side of a visible display part 14 of a symbol display body 37 putting lamps 52, 52 in between to reflect the diffusing light irradiated from the lamps 52, 52 toward the back side to the visible display part 14 in front. Thus the lamps 52, 52 can simultaneously light up both the symbol stopped at the symbol stop line and the whole face of the visible display part 14.

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CLAIMS

[Claim(s)]

[Claim 1] To a part for the visible display established to the transverse-plane side of the game machine which develops a pattern combination game (pattern halt Rhine (T of 14)) a base -- (while carrying out the deactivate indication of the pattern of the pattern display object (37) in the pattern display unit (N) of two or more trains by which unitization was carried out to every 35) In the pattern adjustable display equipped with a lighting means (40) to illuminate from a background the pattern which it was installed in said base (35) on the background of said pattern display object (37), and attended a part for a visible display (14) Said lighting means (40) meets the arrangement side to said base (35). And the exposure lamp which irradiates the diffused light to the side while being arranged with the inclination posture in which said pattern halt Rhine (T) was made to point to a tip and irradiating concentration light to the tip front (52 52), With the part which attends a part for the visible display of said pattern display object (37) (14) on both sides of said exposure lamp (52 52), it is prepared in the opposite side. Said pattern which has the reflecting plate (57) made to reflect in a part for the visible display by the side of before (14) the diffused light irradiated from this lamp (52 52) to the backside, and was stopped to said pattern halt Rhine (T) While being illuminated by the concentration light irradiated from said exposure lamp (52 52) to the tip front, the whole surface for said visible display (14) The pattern adjustable display for pattern combination system game machines characterized by constituting so that it may be illuminated by the diffused light by which it irradiated to the diffused light irradiated from this exposure lamp (52 52) to the before side, and the backside, and turning was carried out with said reflecting plate (57) to the before side.

[Claim 2] Said exposure lamp (52) is arranged in the vertical position of symmetry which sandwiches said pattern halt Rhine (T), respectively. It is installed in the inclination condition which falls before making (T) direct. the exposure lamp (52) arranged up -- a tip -- this pattern halt Rhine -- the exposure lamp (52) arranged caudad -- a tip -- this pattern halt Rhine -- the pattern adjustable display for pattern combination system game machines according to claim 1 installed in the inclination condition of a riser before making (T) direct.

[Claim 3] Said pattern display object (37) is a pattern adjustable display for pattern combination system game machines according to claim 1 or 2 with which it is formed from the material which has light transmission nature, and two or more heights (47) which diffuse the concentration light and the diffused light from said exposure lamp (52 52) are formed in the rear face.

[Claim 4] While said pattern display object (37) rotates and stops by the rotation driving means (36) attached in said base (35) which makes a printed circuit board serve a double purpose Location detection of said pattern is made by the detection means (41) attached in this base (35). These rotation driving means (36) and a detection means (41) The pattern adjustable display for pattern combination system game machines given in any of claims 1-3 directly linked with the drive circuit and detector which were formed in said base (35) they are.

[Translation done.]DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the pattern adjustable display equipped with a lighting means to illuminate from a background the pattern which attended a part for this visible display while carrying out the deactivate indication of the pattern to pattern halt Rhine for the visible display established to the transverse-plane side of the game machine which develops a pattern combination game in a detail further about the pattern adjustable display for pattern combination system game machines.

[0002]

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[Description of the Prior Art] A pattern combination game develop based on a fluctuation control condition including starting and a halt at each time which be generate in a game, and the pattern adjustable display call the "drum format", and the "belt format" be adopt as a means which can indicate by formation the combination winning a prize conditions make into the right which start a game condition specially on the pachinko machine with which operation be present as a pattern combination system game machine, or a slot machine. Among these, for example, the pattern adjustable display of a pattern drum format Although there is a difference in size, a fluctuation control condition, etc. with the target game machine The pattern drum which carried out formation arrangement of the patterns, such as a figure and a graphic form mark, at the peripheral face of the drum body of revolution of the Taira pulley form by which the gestalt, configuration, etc. were fundamentally common, and synthetic-resin shaping was carried out, Rotation driving means, such as a stepping motor made to rotate and suspend this pattern drum, The positioning detection means for each patterns by which a deactivate indication is carried out, the lighting means which indicates each pattern by lighting The pattern display unit which it comes to attach to the drive base which makes the printed circuit board in which the drive circuit, the detector, and the lighting circuit were formed serve a double purpose is changed to the one hold case inside of the body, the hold set of two or more sets (generally three sets (a left column, a middle line, and a right column)) is changed into a condition lining up side-by-side, and it is constituted.

[0003] Based on the fluctuation control mode concerning a pattern combination game at each time, fluctuation initiation of the pattern drum for every train is carried out at the order of a setup, and such a pattern adjustable display stops. Contrast detection with the combination pattern (it is also called a hit pattern) set up beforehand is made, and judgment control of "a hit" or the "blank" is carried out by the pattern detection information on each detection means against the pattern of each train by which the deactivate indication was carried out on pattern halt Rhine (winning-a-prize formation Rhine). Moreover, when predetermined pattern combination conditions may be satisfied with each train pattern by which the deactivate indication was carried out to pattern halt Rhine in a part for the visible display of the game board (pattern fluoroscopy aperture) (so-called "reach" condition), or when actually materialized (the so-called "great success"), said lighting means It is for indicating this by lighting effectively to a game person, for example, it is designed so that the display effectiveness over each pattern combination can be heightened as a continuation lighting display at the time of a flashing display and "great success" at the time of the above "reach."

[0004]

[Problem(s) to be Solved by the Invention] As having mentioned above, the lighting means of each pattern display unit in a pattern adjustable indicating equipment is providing the function which carries out lighting information, and this and the function which illuminates the part for a whole pattern visible display in homogeneity to coincidence so that the pattern concerned may emphasize at the time of generating of "reach", and "great success" etc., and is for raising the idea nature to a game and giving a game person high impression and a strong impression. However, with the conventional lighting means, since the exposure lamp for illuminating the pattern stopped to pattern halt Rhine and the lighting lamp (mainly LED lamp) for on the whole illuminating a part for a visible display were needed, installing the lamp of these plurality in the space tooth space to which the inside of a pattern drum was restricted had constraint. For this reason, that it is a suitable location and each lamp cannot be installed in the suitable sense in many cases, in such a case, since the high light effect was no longer acquired, there was un-arranging [which can give a game person neither high impression nor a strong impression]. Moreover, in order to use many lamps, the fault in which a manufacturing cost increases with the increment in components mark was also pointed out.

[0005] On the other hand, though the rim section which arranged the pattern in said pattern drum may make the exposure light of the lamp in said lighting means penetrate, this rim section itself does not have the function to make exposure light only penetrate and to diffuse exposure light. Therefore, the color of a pattern and color tone change which were irradiated from the inside were scarce, and had become the low thing of a light effect. Moreover, in order to install many lamps in the rotating-drum inside, the reflecting plate made to reflect in the rim rear-face side of a pattern drum the exposure light which irradiated this installation part towards the backside of a lamp could not be formed, but the technical problem which cannot use exposure light by the side of back for the lighting for a visible display was also

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inherent.

[0006] Furthermore, electrical installation of said stepping motor or detection means, and the lighting means is not directly carried out to said drive base, and they are electrically connected with a drive base through the junction base of the dedication which is formed separately and fixed to this drive base. For this reason, since an activity man day with a group also increased while components mark increase, the rise of the manufacturing cost by this had not been disregarded, either.

[0007]

[Objects of the Invention] It is elaborating the installation gestalt of this lamp by the premise which uses the lamp which this invention's is proposed in view of said technical problem inherent in the Prior art mentioned above so that it may solve this suitably, and has directivity in exposure light. It enables it to correspond the lighting of the whole visible display part, and the exposure of the pattern stopped to pattern halt Rhine with the same lamp. While enabling improvement in a light effect, it aims at offering the pattern adjustable display for pattern combination system game machines which enabled the cost cut by components mark reduction or man-hour-for-assembly reduction.

[0008]

[Means for Solving the Problem] In order to conquer said technical problem and to attain the desired end suitably this invention While carrying out the deactivate indication of the pattern of the pattern display object in the pattern display unit of two or more trains by which unitization was carried out to pattern halt Rhine for the visible display established to the transverse-plane side of the game machine which develops a pattern combination game for every base In the pattern adjustable display equipped with a lighting means to illuminate from a background the pattern which it was installed in said base on the background of said pattern display object, and attended a part for a visible display said lighting means (40) The exposure lamp which irradiates the diffused light to the side while being arranged with the inclination posture in which said pattern halt Rhine was made to point to a tip along the arrangement side to said base and irradiating concentration light to the tip front, With the part which attends a part for the visible display of said pattern display object on both sides of said exposure lamp, it is prepared in the opposite side. Said pattern which has the reflecting plate made to reflect in a part for the visible display by the side of before the diffused light irradiated from this lamp to the backside, and was stopped to said pattern halt Rhine While being illuminated by the concentration light irradiated from said exposure lamp to the tip front, the whole surface for said visible display is characterized by constituting so that it may be illuminated by the diffused light by which it irradiated to the diffused light irradiated from this exposure lamp to the before side, and the backside, and turning was carried out with said reflecting plate to the before side.

[0009]

[Function] The lighting means had the exposure lamp which irradiates the diffused light to the side while irradiating concentration light to the front, and it formed the reflecting plate in the backside [this exposure lamp] while arranging in the state of the inclination which made pattern halt Rhine point to a tip along that arrangement side [based on this exposure lamp]. The diffused light irradiated to the side while the concentration light irradiated to the tip front was irradiated towards the pattern stopped to pattern halt Rhine, when luminescence control of the exposure lamp concerned was carried out by this comes to illuminate the whole surface for a pattern visible region in homogeneity, and while a high light effect is acquired with a single exposure lamp, high impression and a strong impression can be given to a game person. And since it constituted so that heights might be prepared in a background and light might be diffused while fabricating the pattern display object from the material which has light transmission nature, the whole visible display part surface is illuminated still more brightly.

[0010]

[Embodiment of the Invention] Next, it explains to a detail below, giving a suitable example and referring to an accompanying drawing about the pattern adjustable display for pattern combination system game machines concerning this invention. By this example, while illustrating the pachinko machine which uses a pachinko ball as a game medium as a pattern combination type game machine, the pattern adjustable indicating equipment of the drum format carried out by this pachinko machine as a pattern adjustable indicating equipment is illustrated here. In addition, while the target pattern adjustable indicating equipment is not limited to the pattern adjustable indicating equipment of a drum format and the pattern

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adjustable indicating equipment of a belt format etc. is contained for this invention, also let a game machine be an object not only for a pachinko machine but for an arrangement ball machine, a slot machine, etc.

[0011] (Pachinko machine) Epitome explanation is given, referring to drawing 1 and drawing 3 there about the pachinko machine first applied to this example. The front frame B with which this pachinko machine P is used as the loading frame for closing motion at the front-face side of opening of the outer frame A used as the outline frame for immobilization as that fundamental configuration is attached possible [attachment and detachment and closing motion] using the connection support means, the locking means, etc. And the window frame C which attached the glass door D of the horizontal aperture type which is a configuration member for game machine common to the front-face side of this front frame B Upper **** E set to the before [the closing motion set board attached possible / attachment and detachment and closing motion / to a window frame C in the lower part of this glass door D] side, lower **** F located in the lower berth, the hit ball launcher G, etc. are attached, and the rear-face side is equipped with the device set board J. moreover, the game board H which constituted the necessary game field inside the transverse plane of the hold frame on a front frame B background -- attachment and detachment -- it is set exchangeable. On the other hand, it is needed for expenditure control of a ball on hire, and ball rental is carried out, and a system (card system) is installed in the side (adjoining part of an outer frame A) of the pachinko machine P, and is connected with each electronics control section.

[0012] In a before [the game field 11 surrounded by the approximate circle configuration with the rail 10 which carried out curve formation as said game board H was shown in drawing 2] side (Game board) **** -- with the starting winning-a-prize implement 12 which is arranged a little by the lower part and can detect a safe ball with a switch The large-sized ornament components 13 in which a part for the visible display 14 which the lens section 23 of the pattern adjustable display M of this example which it is arranged at the method of right above of this starting winning-a-prize implement 12, and is mentioned later adjusts was formed, It has the guide wheel 15 which is also called a wind mill and carries out turning of the flowing-down direction for game balls to arbitration, the electromotive large-sized winning-a-prize equipment 16 installed in the method of directly under of the starting winning-a-prize implement 12, and the electric-spectaculars equipment 17 grade by which modification control of the exposure pattern is carried out according to a game condition. In addition, the hold lamp 19 which displays the number of effective holds of the safe ball by which winning-a-prize detection was carried out with said starting winning-a-prize implement 12 (a maximum of four pieces) is arranged in the upper part of the large-sized ornament components 13. Moreover, the sign 18 in drawing 2 shows out opening.

[0013] (Pattern adjustable display) Next, the pattern adjustable display M concerning this example installed in the background of said game board H is explained. The pattern adjustable display M of this example is the thing of the format stopped after rotating each pattern drum 37 [the setup time] based on the control output generated from the electric control substrate 30 installed in the tooth-back side of this equipment M according to the starting input condition from said starting winning-a-prize implement 12. That is, this pattern adjustable display M consists of electric-control substrate 30 grades arranged at the tooth-back side of the fluoroscopy member 20 arranged in a before [equipment] side, the hold case member 21 attached to the background of this fluoroscopy member 20 by having consistency, and the three sets of the pattern display units N, N, and N by which a hold set is carried out in the condition lining up side-by-side into this hold case member 21 and the hold case member 21, as shown in drawing 4 .

[0014] (Fluoroscopy member) By said fluoroscopy member 20, as shown in drawing 2 and drawing 4 , the whole is the transparent one mold goods made of synthetic resin, and it consists of the frame section 22 which contacts the background of said large-sized ornament component 13 with which the front-face side of said game board H was equipped, and the lens section 23 which it is formed in the central part of this frame section 22, and is adjusted in a part for the visible display 14 of said ornament component 13. Bulge shaping of said lens section 23 is carried out at the positive convex radii form as a premise in the outer diameter and arrangement width of face of said pattern drum 37 of three trains, and the display window side 24 for displaying the effective pattern for one coma of each pattern drum 37 in the center of a front face on the assumption that level one line is set up as pattern halt Rhine T (drawing 2) is formed. In addition, the locking implements 34 and 34 which engage with the safe ball guidance member 33 with which the rear face of said game board H was equipped are arranged in the both ends of the frame

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section 32 rotatable by the really fabricated bulge section (drawing 3), and the pattern adjustable display M of this example is attached by carrying out rotation engagement of these locking implement 34 at said safe ball guidance member 33.

[0015] (Hold case member) Said hold case member 21 consists of a front frame 25 which it is fabricated in the shape of a rectangular frame, and is adjusted on frame section 22 background of said fluoroscopy member 20, and a back box 26 which covers the backside of each pattern display unit N which adjusted in backside [this front frame 25] opening, and was held in the interior, as shown in drawing 4 . And by adjusting the front frame 25 and the back box 26 forward and backward, while the hold room 27 for carrying out the hold set of three sets of the pattern display units N, N, and N is formed inside, it misses for [in the drive base 35 of each unit N] the connector installation sections in the low wall section, and opening formation of the opening 28 is carried out (refer to drawing 4 and drawing 5). Moreover, the slot 29 for carrying out positioning immobilization of the drive base 35 of each pattern display units N, N, and N is formed in the interior of the back box 26. Moreover, the electric control substrate 30 for controlling said each pattern display unit N is contained and installed in the case member 31, and it is placed between the tooth backs of the back box 26 by the metal plate 32 between this back box 26 and the case member 31. In addition, the front frame 25 adjusts before side opening in step 22a formed in the background of the frame section 22 in said fluoroscopy member 20, and, thereby, mutual positioning with the hold case member 21 and the fluoroscopy member 20 is achieved.

[0016] (Pattern display unit) Three sets of the pattern display units N held in the hold room 27 of the hold case member 21 completely have the same fundamental configuration. That is, each pattern display unit N consists of pattern drums 37 by which a roll control is carried out with the stepping motor (rotation driving means) 36 by which screw arrival was carried out to the center section by the side of the front face of the drive base 35 of one sheet and this drive base 35 of the shape of a long direction rectangle which makes a printed circuit board serve a double purpose, as shown in drawing 6 and drawing 7 . Such a pattern display unit N is the basis which held the drive base 35 concerned in the hold room 27 of said hold case member 21 in said slot 29 for positioning, it is lining up side-by-side, and alignment maintenance is carried out at equal intervals. And each pattern display unit N set to the hold room 27 of the hold case member 21 The periphery anterior part of the pattern drum 37 projected from the first transition of the drive base 35, and has attended lens section 23 rear face of the fluoroscopy member 20 from front opening of the hold case member 21. Moreover, the connector 38 with which the lower limit of the drive base 35 was equipped misses, and it is exposed to the bottom from opening 28, and connects through wire harness 39 to said electric control substrate 30.

[0017] In the pattern display unit N of each of said train, to the front-face side of said drive base 35, besides said stepping motor 36 and a connector 38 While the lighting implement (lighting means) 40 which illuminates from the inside the pattern stopped to pattern halt Rhine T is attached in the anterior part predetermined location of said base 35 The detection implement (detection means) 41 of one photoelectrical sensor format of detecting the location of each pattern of the pattern drum 37 is attached in the posterior part predetermined location of this base 35. Moreover, the drive circuit for said stepping motor 36, the lighting circuit for said lighting implement 40, and the detector for said detection implement 41 are formed in the rear-face side of the drive base 35.

[0018] (Pattern drum) Said pattern drum 37 is fabricated in the shape of a cylinder pulley, as the base object shows drawing 7 , for example, is transparent and colorless, makes the polycarbonate resin which has light transmission nature the quality of the material, and may make the exposure light from said lighting implement 40 penetrate suitably. And one index 46 of L typeface which the boss section 45 is really fabricate in the center of a tip of a total of four spokes 44 of the rim section 43 formed in regularity smooth width of face extended towards the core in the side edge on the other hand , and each spoke 44 , and is detect by said detection implement 41 in the necessary location inside the rim section 43 , and serves as a criteria index location of a pattern protrudes . Moreover, while muffle-painting arrangement of various kinds of patterns (not shown) is carried out by the hot printing method, the face shield to said detection implement 41 is formed in said index 46 at the peripheral face of said rim section 43. Furthermore, the heights 47 of a large number which extend crosswise [of this rim section 43] cover the perimeter, and are formed in the rear face of said rim section 43, the exposure light from the lighting implement 40 can be diffused suitably, and improvement in a light effect can be aimed at now.

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[0019] Thus, the constituted pattern drum 37 fixes said boss section 45 in same axle using three screws 48 to the body of revolution 49 fixed to the revolving shaft of said stepping motor 36, follows rotation of this motor 36, and comes to rotate. And when shaded by the index 46 which said detection implement 41 formed during rotation of the pattern drum 37 at the rim section 43, it considers as a detection (ON) condition, and it is set up so that one rotation (360 degrees) of a motor 36 and the pattern drum 37 may be detected. However, when it rotates one time per 200 pulses as an example and ten patterns are formed in the peripheral face of the pattern drum 37, a stepping motor 36 is set up so that it may change and the include angle of 36 degrees for one pattern may be stopped per 20 pulses. In addition, the sign 50 of drawing 7 is a connector linking directly to a drive circuit, and the wire harness (not shown) which extended from the stepping motor 36 is connected.

[0020] (Lighting implement) Said lighting implement 40 consists of two exposure lamps 52 and 52 installed in the bracket 53 which it is and is bis-fixed to the first transition section of said drive base 35 and this bracket 53 for illuminating the whole surface for the visible display 14 while irradiating from the inside the pattern of the pattern drum 37 which stopped to pattern halt Rhine T. While forming the installation section 56 which consists of the hook 54 and the engagement opening 55 which said brackets 53 are the one mold goods of the white synthetic resin which is easy to reflect light, and can attach said each exposure lamp 52 up and down in opposite It has formed in the opposite side with the part which the reflecting plate 57 which sets up perpendicularly to a base 35 and presents the shape of radii faces a part for the visible display 14 of the pattern drum 37 on both sides of said installation section 56 and the exposure lamp 52 installed among 56 at this installation section 56. Moreover, the thing possessing the front directivity which irradiates the diffused light to the side while said each exposure lamp 52 irradiates concentration light to a ballhead cylindrical shape to nothing and the tip front of a type is carried out. When it installs in said each installation sections 56 and 56, it is arranged to said drive base 35 by the inclination posture in which the tip was made to point to the display window side 24 (pattern halt Rhine T) of said fluoroscopy member 20 along the arrangement side. That is, an upper exposure lamp 52 is installed in the inclination condition which falls a tip before making it point to this pattern halt Rhine T, a tip installs in the inclination condition of a riser, before the downward exposure lamp 52 makes it point to this pattern halt Rhine T, and each exposure lamp 52 and 52 is arranged in the shape of "a character of width 8" in the vertical position of symmetry which sandwiched horizontal-center-line X-X which is in agreement with pattern halt Rhine T. And the terminal of each exposure lamp 52 is directly linked with the lighting circuit formed in the rear face of said drive base 35.

[0021] Therefore, when luminescence control of both the exposure lamps 52 and 52 is carried out by said electric control substrate 30, as shown in drawing 8, the pattern stopped to pattern halt Rhine T by the concentration light irradiated from each lamp 52 to the tip front is illuminated intensively, and it comes to display the pattern concerned on the front face of the pachinko machine P vividly through a part for the lens section 23 and the visible display 14. Moreover, it is related with the diffused light irradiated by luminescence control of both the exposure lamp 52 from this lamp 52 to the side. While the diffused light irradiated towards the before side (lens section 23 side) illuminates directly the large field on the background of the pattern drum 37 which attended the lens section 23 (a part for the visible display 14) The diffused light irradiated towards the backside comes to illuminate indirectly the large field on the background of the pattern drum 37 which attended the lens section 23 (a part for the visible display 14), after reflecting in a before side with said reflecting plate 57. That is, finally all the diffused lights irradiated from each exposure lamp 52 to the side come to illuminate extensively the background of the pattern drum 37 which attended the lens section 23 (a part for the visible display 14) with the reflecting plate 57 formed in the backside [the exposure lamp 52]. And since two or more heights 47 are formed in the rear face of the rim section 43 in the pattern drum 37 as mentioned above, the concentration light and the diffused light which were irradiated from said each exposure lamp 52 are further diffused in these heights 47, come to reach to the lens section 23, and come to be illuminated uniformly [the whole surface for the visible display 14], and vividly. In addition, if each pattern formed in the pattern drum 37 is printed in luminescence ink or fluorescence ink, luminescence lighting will be suitably carried out by the ultraviolet rays irradiated from said exposure lamp 52.

[0022] (Detection implement) As mentioned above, said detection implement 41 is for carrying out check detection of the pattern home position for every time of detection of said index 46 formed in the pattern

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drum 37, and has a light-emitting part and a light sensing portion in the opposite location of the concave body section 60. And as shown in drawing 7, where the background of said body section 60 is directly stuck to the front-face side of said drive base 35, it was fixed to this drive base 35, and the terminal (not shown) which extended from said light-emitting part and light sensing portion is directly linked with the detector formed in the rear-face side of the drive base 35. Incidentally the installation part (detection location) of said detection implement 41 is set in the premise by which the deactivate indication of the pattern of said pattern drum 37 is carried out to pattern halt Rhine T of said lens section 23 to the 180 backside [said horizontal-center-line X-X passing through the center of rotation of a stepping motor 36], i.e., a step angle.

[0023]

[An operation of this example] Next, it explains per operation of the pattern adjustable display for pattern combination system game machines concerning this example constituted as mentioned above.

[0024] In the pattern display unit N of each train which constitutes the pattern adjustable display M of this example, a stepping motor 36, the lighting implement 40, and the detection implement 41 are directly bis-fixed to the surface necessary location of said drive base 35 which makes a printed circuit board serve a double purpose. And the electric connection with a drive circuit is simply made only by a stepping motor 36 connecting wire harness to said connector 50, the electric connection between a terminal and a detector is made by the installation and coincidence to the drive base 35 of the body section 60, and, as for the detection implement 41, the electric connection between a terminal and a lighting circuit is made by the installation and coincidence to the drive base 35 of a bracket 53, as for each exposure lamp 52 in the lighting implement 40. In addition, as for the terminal of the detection implement 41, and the terminal of the exposure lamp 52, soldering to the circuit of correspondence is desirable. On the other hand, said pattern drum 37 is arranged where said detection implement 41 and the lighting implement 40 are contained inside the rim section 43 by bis-fixing the boss section 45 to the body of revolution 49 of said stepping motor 36, and thereby, each pattern display unit N is constituted by the compact.

[0025] Thus, three sets of the assembled pattern display units N are contained by the condition lining up side-by-side in the hold room 27 of this hold case member 21 by making the slot 29 of the back box 26 in said hold case member 21 carry out fitting of each drive base 35, and fixing (drawing 5). And while attaching the hold case member 21 which held three sets of the pattern display units N, and said fluoroscopy member 20 forward and backward, the pattern adjustable display M concerning this example is formed by fixing to the tooth-back side of this hold case member 21 the case member 31 which held the electric control substrate 30 through a metal plate 32. Thus, the pattern adjustable display M by which unitization was carried out Consistency is made to have from the backside [this game board H] to the background of the large-sized ornament components 13 attached in the game field 11 of said game board H from the before side. It is installed in the condition of having adjusted the lens section 23 of said fluoroscopy member 20 to a part for the visible display 14 of these ornament components 13, by carrying out rotation engagement of said locking implements 34 and 34 in this condition at the safe ball guidance member 33, and fixing to this ball guidance member 33 (drawing 4). Thereby by the before [the game board H] side, a fluoroscopy indication of the pattern of each pattern drum 37 in three sets of said pattern display units N is changed into 3 train condition lining up side-by-side through the lens section 23 which attended a part for the visible display 14 of said large-sized ornament component 13.

[0026] And the pachinko machine P which carried out the pattern adjustable indicating equipment M of this example The game ball discharged in the game develops a pattern combination game based on the starting input by winning-a-prize detection having been carried out with said starting winning-a-prize implement 12. At the time of "great success" generating by the deactivate indication result of the hit pattern in this pattern adjustable display M, the special game conditions which carried out Kaisei of the win hole of said large-sized winning-a-prize equipment 16 are appeared.

[0027] Here, in each pattern display unit N of the pattern adjustable indicating equipment M, corresponding to each [at the time of "reach" generating in pattern fluctuation halt control, and "great success" generating] time, and the time of a monograph affair, necessary luminescence control including flashing, lighting, etc. to each exposure lamp 52 of said lighting implement 40 by said electric-control substrate 30 is performed, and the suitable lighting to each pattern is made. That is, when luminescence control of each exposure lamps 52 and 52 of the lighting implement 40 is carried out, the concentration

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light irradiated to the tip front is irradiated towards said display window side 24 from each lamp 52, and the pattern stopped to pattern halt Rhine T comes to emerge vividly to the display window side 24.

[0028] Moreover, it is related with the diffused light irradiated by luminescence control of both the exposure lamp 52 from this lamp 52 to the side. As mentioned above, while the diffused light irradiated towards the before side (a part side for the visible display 14) illuminates directly the large field on the background of the pattern drum 37 which attended the lens section 23 The diffused light irradiated towards the backside (reflecting plate side 57 side) comes to illuminate indirectly the large field on the background of the pattern drum 37 which attended a part for the visible display 14, after being reflected in a before side with this reflecting plate 57. That is, finally all the diffused lights irradiated from each exposure lamp 52 come to illuminate extensively the background of the pattern drum 37 which attended a part for the visible display 14 with the reflecting plate 57 formed in the backside [the exposure lamp 52].

[0029] And the concentration light and the diffused light which were irradiated from said each exposure lamp 52 are diffused further, and come to reach to the lens section 23, and the whole surface for the visible display 14 comes to be brightly illuminated in homogeneity by two or more heights 47 formed in the rear face of the rim section 43 in the pattern drum 37.

[0030] Thus, impression high to the game person which the pattern stopped to pattern halt Rhine T (display window side 24) while the part for the whole visible display 14 was illuminated in homogeneity and brightly at the time of the time of "reach" generating or "great success" generating in the pachinko machine which carried out the pattern [of this example] adjustable indicating equipment M is emphasized further, comes to emerge vividly, and performs a pachinko game with the pachinko machine P concerned, a strong impression, etc. can be given suitably. And since such lighting control is performed by [which have front directivity] having been small or having devised the arrangement structure of two exposure lamps 52 and 52, although it aims at the cost cut by components mark reduction, reduction of a man-hour for assembly, etc., a high light effect is acquired.

[0031] Furthermore, with the pattern adjustable display M of this example, since it was made to link directly each exposure lamp 52 of the stepping motor 36 which constitutes each pattern display unit N, the detection implement 41, and the lighting implement 40 with the drive circuit of the drive base 35, a detector, and a lighting circuit, respectively, the junction base of the dedication currently carried out conventionally is made unnecessary, and a cost cut becomes possible by reduction of the components mark by this.

[0032]

[Effect of the Invention] As having explained above, while having arranged in the state of the inclination which made pattern halt Rhine point the exposure lamp which irradiates the diffused light to the side to a tip along the arrangement side to a base while irradiating concentration light to the tip front, with the pattern adjustable display for pattern combination system game machines concerning this invention, a reflecting plate formed in the opposite side with the part which faces on both sides of this exposure lamp at a part for the visible display of a pattern display object. When luminescence control of the exposure lamp concerned is carried out by this Since the concentration light irradiated to the tip front is irradiated towards the pattern stopped to pattern halt Rhine, while making this pattern emerge vividly to a part for a pattern visible region The diffused light irradiated to the side can illuminate now the whole surface for a pattern visible region in homogeneity, and while a high light effect is acquired, there is an advantage which can give a game person high impression and a strong impression. And since it becomes possible to make it correspond to both the lighting of a pattern and the lighting of the whole pattern visible-region part with a single exposure lamp, there is also an advantage which can aim at the cost cut by components mark reduction. Furthermore, since it constituted so that heights might be prepared in a background and light might be diffused while fabricating the pattern display object from the material which has light transmission nature, it becomes possible to illuminate the whole surface for a visible display still more brightly, and improvement in the light effect by this can also be expected.

[0033] Furthermore, it was made to link directly each rotation driving means which carries out a pattern display unit configuration, a detection means, etc. in the pattern adjustable display concerning this invention with the drive circuit and detector of correspondence which were formed in the base. Therefore, there is also an advantage, like the junction base of the dedication currently carried out conventionally becomes unnecessary, and the further cost cut is attained by the components mark reduction by this.

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[Translation done.]

EFFECT OF THE INVENTION

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[Translation done.]

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] As having mentioned above, the lighting means of each pattern display unit in a pattern adjustable indicating equipment is providing the function which carries out lighting information, and this and the function which illuminates the part for a whole pattern visible display in homogeneity to coincidence so that the pattern concerned may emphasize at the time of generating of "reach", and "great success" etc., and is for raising the idea nature to a game and giving a game person high impression and a strong impression. However, with the conventional lighting means, since the exposure lamp for illuminating the pattern stopped to pattern halt Rhine and the lighting lamp (mainly LED lamp) for on the whole illuminating a part for a visible display were needed, installing the lamp of these plurality in the space tooth space to which the inside of a pattern drum was restricted had constraint. For this reason, that it is a suitable location and each lamp cannot be installed in the suitable sense in many cases, in such a case, since the high light effect was no longer acquired, there was un-arranging [which can give a game person neither high impression nor a strong impression]. Moreover, in order to use many lamps, the fault in which a manufacturing cost increases with the increment in components mark

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was also pointed out.

[0005] On the other hand, though the rim section which arranged the pattern in said pattern drum may make the exposure light of the lamp in said lighting means penetrate, this rim section itself does not have the function to make exposure light only penetrate and to diffuse exposure light. Therefore, the color of a pattern and color tone change which were irradiated from the inside were scarce, and had become the low thing of a light effect. Moreover, in order to install many lamps in the rotating-drum inside, the reflecting plate made to reflect in the rim rear-face side of a pattern drum the exposure light which irradiated this installation part towards the backside of a lamp could not be formed, but the technical problem which cannot use exposure light by the side of back for the lighting for a visible display was also inherent.

[0006] Furthermore, electrical installation of said stepping motor or detection means, and the lighting means is not directly carried out to said drive base, and they are electrically connected with a drive base through the junction base of the dedication which is formed separately and fixed to this drive base. For this reason, since an activity man day with a group also increased while components mark increase, the rise of the manufacturing cost by this had not been disregarded, either.

[0007]

[Objects of the Invention] It is elaborating the installation gestalt of this lamp by the premise which uses the lamp which this invention's is proposed in view of said technical problem inherent in the Prior art mentioned above so that it may solve this suitably, and has directivity in exposure light. It enables it to correspond the lighting of the whole visible display part, and the exposure of the pattern stopped to pattern halt Rhine with the same lamp. While enabling improvement in a light effect, it aims at offering the pattern adjustable display for pattern combination system game machines which enabled the cost cut by components mark reduction or man-hour-for-assembly reduction.

[Translation done.]

MEANS

[Means for Solving the Problem] In order to conquer said technical problem and to attain the desired end suitably this invention While carrying out the deactivate indication of the pattern of the pattern display object in the pattern display unit of two or more trains by which unitization was carried out to pattern halt Rhine for the visible display established to the transverse-plane side of the game machine which develops a pattern combination game for every base In the pattern adjustable display equipped with a lighting means to illuminate from a background the pattern which it was installed in said base on the background of said pattern display object, and attended a part for a visible display said lighting means (40) The exposure lamp which irradiates the diffused light to the side while being arranged with the inclination posture in which said pattern halt Rhine was made to point to a tip along the arrangement side to said base and irradiating concentration light to the tip front, With the part which attends a part for the visible display of said pattern display object on both sides of said exposure lamp, it is prepared in the opposite side. Said pattern which has the reflecting plate made to reflect in a part for the visible display by the side of before the diffused light irradiated from this lamp to the backside, and was stopped to said pattern halt Rhine While being illuminated by the concentration light irradiated from said exposure lamp to the tip front, the whole surface for said visible display is characterized by constituting so that it may be illuminated by the diffused light by which it irradiated to the diffused light irradiated from this exposure lamp to the before side, and the backside, and turning was carried out with said reflecting plate to the before side.

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[Translation done.]

OPERATION

[Function] The lighting means had the exposure lamp which irradiates the diffused light to the side while irradiating concentration light to the front, and it formed the reflecting plate in the backside [this exposure lamp] while arranging in the state of the inclination which made pattern halt Rhine point to a tip along that arrangement side [based on this exposure lamp]. The diffused light irradiated to the side while the concentration light irradiated to the tip front was irradiated towards the pattern stopped to pattern halt Rhine, when luminescence control of the exposure lamp concerned was carried out by this comes to illuminate the whole surface for a pattern visible region in homogeneity, and while a high light effect is acquired with a single exposure lamp, high impression and a strong impression can be given to a game person. And since it constituted so that heights might be prepared in a background and light might be diffused while fabricating the pattern display object from the material which has light transmission nature, the whole visible display part surface is illuminated still more brightly.

[0010]

[Embodiment of the Invention] Next, it explains to a detail below, giving a suitable example and referring to an accompanying drawing about the pattern adjustable display for pattern combination system game machines concerning this invention. By this example, while illustrating the pachinko machine which uses a pachinko ball as a game medium as a pattern combination type game machine, the pattern adjustable indicating equipment of the drum format carried out by this pachinko machine as a pattern adjustable indicating equipment is illustrated here. In addition, while the target pattern adjustable indicating equipment is not limited to the pattern adjustable indicating equipment of a drum format and the pattern adjustable indicating equipment of a belt format etc. is contained for this invention, also let a game machine be an object not only for a pachinko machine but for an arrangement ball machine, a slot machine, etc.

[0011] (Pachinko machine) Epitome explanation is given, referring to drawing 1 and drawing 3 there about the pachinko machine first applied to this example. The front frame B with which this pachinko machine P is used as the loading frame for closing motion at the front-face side of opening of the outer frame A used as the outline frame for immobilization as that fundamental configuration is attached possible [attachment and detachment and closing motion] using the connection support means, the locking means, etc. And the window frame C which attached the glass door D of the horizontal aperture type which is a configuration member for game machine common to the front-face side of this front frame B Upper **** E set to the before [the closing motion set board attached possible / attachment and detachment and closing motion / to a window frame C in the lower part of this glass door D] side, lower **** F located in the lower berth, the hit ball launcher G, etc. are attached, and the rear-face side is equipped with the device set board J. moreover, the game board H which constituted the necessary game field inside the transverse plane of the hold frame on a front frame B background -- attachment and detachment -- it is set exchangeable. On the other hand, it is needed for expenditure control of a ball on hire, and ball rental is carried out, and a system (card system) is installed in the side (adjoining part of an outer frame A) of the pachinko machine P, and is connected with each electronics control section.

[0012] In a before [the game field 11 surrounded by the approximate circle configuration with the rail 10 which carried out curve formation as said game board H was shown in drawing 2] side (Game board) **** -- with the starting winning-a-prize implement 12 which is arranged a little by the lower part and can detect a safe ball with a switch The large-sized ornament components 13 in which a part for the visible display 14 which the lens section 23 of the pattern adjustable display M of this example which it is arranged at the method of right above of this starting winning-a-prize implement 12, and is mentioned later adjusts was formed, It has the guide wheel 15 which is also called a wind mill and carries out turning of the flowing-down direction for game balls to arbitration, the electromotive large-sized winning-a-prize equipment 16 installed in the method of directly under of the starting winning-a-prize implement 12, and the electric-spectaculars equipment 17 grade by which modification control of the exposure pattern is

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carried out according to a game condition. In addition, the hold lamp 19 which displays the number of effective holds of the safe ball by which winning-a-prize detection was carried out with said starting winning-a-prize implement 12 (a maximum of four pieces) is arranged in the upper part of the large-sized ornament components 13. Moreover, the sign 18 in drawing 2 shows out opening.

[0013] (Pattern adjustable display) Next, the pattern adjustable display M concerning this example installed in the background of said game board H is explained. The pattern adjustable display M of this example is the thing of the format stopped after rotating each pattern drum 37 [the setup time] based on the control output generated from the electric control substrate 30 installed in the tooth-back side of this equipment M according to the starting input condition from said starting winning-a-prize implement 12.

That is, this pattern adjustable display M consists of electric-control substrate 30 grades arranged at the tooth-back side of the fluoroscopy member 20 arranged in a before [equipment] side, the hold case member 21 attached to the background of this fluoroscopy member 20 by having consistency, and the three sets of the pattern display units N, N, and N by which a hold set is carried out in the condition lining up side-by-side into this hold case member 21 and the hold case member 21, as shown in drawing 4.

[0014] (Fluoroscopy member) By said fluoroscopy member 20, as shown in drawing 2 and drawing 4, the whole is the transparent one mold goods made of synthetic resin, and it consists of the frame section 22 which contacts the background of said large-sized ornament component 13 with which the front-face side of said game board H was equipped, and the lens section 23 which it is formed in the central part of this frame section 22, and is adjusted in a part for the visible display 14 of said ornament component 13.

Bulge shaping of said lens section 23 is carried out at the positive convex radii form as a premise in the outer diameter and arrangement width of face of said pattern drum 37 of three trains, and the display window side 24 for displaying the effective pattern for one coma of each pattern drum 37 in the center of a front face on the assumption that level one line is set up as pattern halt Rhine T (drawing 2) is formed. In addition, the locking implements 34 and 34 which engage with the safe ball guidance member 33 with which the rear face of said game board H was equipped are arranged in the both ends of the frame section 32 rotatable by the really fabricated bulge section (drawing 3), and the pattern adjustable display M of this example is attached by carrying out rotation engagement of these locking implement 34 at said safe ball guidance member 33.

[0015] (Hold case member) Said hold case member 21 consists of a front frame 25 which it is fabricated in the shape of a rectangular frame, and is adjusted on frame section 22 background of said fluoroscopy member 20, and a back box 26 which covers the backside of each pattern display unit N which adjusted in backside [this front frame 25] opening, and was held in the interior, as shown in drawing 4. And by adjusting the front frame 25 and the back box 26 forward and backward, while the hold room 27 for carrying out the hold set of three sets of the pattern display units N, N, and N is formed inside, it misses for [in the drive base 35 of each unit N] the connector installation sections in the low wall section, and opening formation of the opening 28 is carried out (refer to drawing 4 and drawing 5). Moreover, the slot 29 for carrying out positioning immobilization of the drive base 35 of each pattern display units N, N, and N is formed in the interior of the back box 26. Moreover, the electric control substrate 30 for controlling said each pattern display unit N is contained and installed in the case member 31, and it is placed between the tooth backs of the back box 26 by the metal plate 32 between this back box 26 and the case member 31. In addition, the front frame 25 adjusts before side opening in step 22a formed in the background of the frame section 22 in said fluoroscopy member 20, and, thereby, mutual positioning with the hold case member 21 and the fluoroscopy member 20 is achieved.

[0016] (Pattern display unit) Three sets of the pattern display units N held in the hold room 27 of the hold case member 21 completely have the same fundamental configuration. That is, each pattern display unit N consists of pattern drums 37 by which a roll control is carried out with the stepping motor (rotation driving means) 36 by which screw arrival was carried out to the center section by the side of the front face of the drive base 35 of one sheet and this drive base 35 of the shape of a long direction rectangle which makes a printed circuit board serve a double purpose, as shown in drawing 6 and drawing 7. Such a pattern display unit N is the basis which held the drive base 35 concerned in the hold room 27 of said hold case member 21 in said slot 29 for positioning, it is lining up side-by-side, and alignment maintenance is carried out at equal intervals. And each pattern display unit N set to the hold room 27 of the hold case member 21 The periphery anterior part of the pattern drum 37 projected from the first

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transition of the drive base 35, and has attended lens section 23 rear face of the fluoroscopy member 20 from front opening of the hold case member 21. Moreover, the connector 38 with which the lower limit of the drive base 35 was equipped misses, and it is exposed to the bottom from opening 28, and connects through wire harness 39 to said electric control substrate 30.

[0017] In the pattern display unit N of each of said train, to the front-face side of said drive base 35, besides said stepping motor 36 and a connector 38 While the lighting implement (lighting means) 40 which illuminates from the inside the pattern stopped to pattern halt Rhine T is attached in the anterior part predetermined location of said base 35 The detection implement (detection means) 41 of one photoelectrical sensor format of detecting the location of each pattern of the pattern drum 37 is attached in the posterior part predetermined location of this base 35. Moreover, the drive circuit for said stepping motor 36, the lighting circuit for said lighting implement 40, and the detector for said detection implement 41 are formed in the rear-face side of the drive base 35.

[0018] (Pattern drum) Said pattern drum 37 is fabricated in the shape of a cylinder pulley, as the base object shows drawing 7, for example, is transparent and colorless, makes the polycarbonate resin which has light transmission nature the quality of the material, and may make the exposure light from said lighting implement 40 penetrate suitably. And one index 46 of L typeface which the boss section 45 is really fabricate in the center of a tip of a total of four spokes 44 of the rim section 43 formed in regularity smooth width of face extended towards the core in the side edge on the other hand, and each spoke 44, and is detect by said detection implement 41 in the necessary location inside the rim section 43, and serves as a criteria index location of a pattern protrudes. Moreover, while muffle-painting arrangement of various kinds of patterns (not shown) is carried out by the hot printing method, the face shield to said detection implement 41 is formed in said index 46 at the peripheral face of said rim section 43.

Furthermore, the heights 47 of a large number which extend crosswise [of this rim section 43] cover the perimeter, and are formed in the rear face of said rim section 43, the exposure light from the lighting implement 40 can be diffused suitably, and improvement in a light effect can be aimed at now.

[0019] Thus, the constituted pattern drum 37 fixes said boss section 45 in same axle using three screws 48 to the body of revolution 49 fixed to the revolving shaft of said stepping motor 36, follows rotation of this motor 36, and comes to rotate. And when shaded by the index 46 which said detection implement 41 formed during rotation of the pattern drum 37 at the rim section 43, it considers as a detection (ON) condition, and it is set up so that one rotation (360 degrees) of a motor 36 and the pattern drum 37 may be detected. However, when it rotates one time per 200 pulses as an example and ten patterns are formed in the peripheral face of the pattern drum 37, a stepping motor 36 is set up so that it may change and the include angle of 36 degrees for one pattern may be stopped per 20 pulses. In addition, the sign 50 of drawing 7 is a connector linking directly to a drive circuit, and the wire harness (not shown) which extended from the stepping motor 36 is connected.

[0020] (Lighting implement) Said lighting implement 40 consists of two exposure lamps 52 and 52 installed in the bracket 53 which it is and is bis-fixed to the first transition section of said drive base 35 and this bracket 53 for illuminating the whole surface for the visible display 14 while irradiating from the inside the pattern of the pattern drum 37 which stopped to pattern halt Rhine T. While forming the installation section 56 which consists of the hook 54 and the engagement opening 55 which said brackets 53 are the one mold goods of the white synthetic resin which is easy to reflect light, and can attach said each exposure lamp 52 up and down in opposite It has formed in the opposite side with the part which the reflecting plate 57 which sets up perpendicularly to a base 35 and presents the shape of radii faces a part for the visible display 14 of the pattern drum 37 on both sides of said installation section 56 and the exposure lamp 52 installed among 56 at this installation section 56. Moreover, the thing possessing the front directivity which irradiates the diffused light to the side while said each exposure lamp 52 irradiates concentration light to a ballhead cylindrical shape to nothing and the tip front of a type is carried out. When it installs in said each installation sections 56 and 56, it is arranged to said drive base 35 by the inclination posture in which the tip was made to point to the display window side 24 (pattern halt Rhine T) of said fluoroscopy member 20 along the arrangement side. That is, an upper exposure lamp 52 is installed in the inclination condition which falls a tip before making it point to this pattern halt Rhine T, a tip installs in the inclination condition of a riser, before the downward exposure lamp 52 makes it point to this pattern halt Rhine T, and each exposure lamp 52 and 52 is arranged in the shape of "a character of width

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8" in the vertical position of symmetry which sandwiched horizontal-center-line X-X which is in agreement with pattern halt Rhine T. And the terminal of each exposure lamp 52 is directly linked with the lighting circuit formed in the rear face of said drive base 35.

[0021] Therefore, when luminescence control of both the exposure lamps 52 and 52 is carried out by said electric control substrate 30, as shown in drawing 8, the pattern stopped to pattern halt Rhine T by the concentration light irradiated from each lamp 52 to the tip front is illuminated intensively, and it comes to display the pattern concerned on the front face of the pachinko machine P vividly through a part for the lens section 23 and the visible display 14. Moreover, it is related with the diffused light irradiated by luminescence control of both the exposure lamp 52 from this lamp 52 to the side. While the diffused light irradiated towards the before side (lens section 23 side) illuminates directly the large field on the background of the pattern drum 37 which attended the lens section 23 (a part for the visible display 14) The diffused light irradiated towards the backside comes to illuminate indirectly the large field on the background of the pattern drum 37 which attended the lens section 23 (a part for the visible display 14), after reflecting in a before side with said reflecting plate 57. That is, finally all the diffused lights irradiated from each exposure lamp 52 to the side come to illuminate extensively the background of the pattern drum 37 which attended the lens section 23 (a part for the visible display 14) with the reflecting plate 57 formed in the backside [the exposure lamp 52]. And since two or more heights 47 are formed in the rear face of the rim section 43 in the pattern drum 37 as mentioned above, the concentration light and the diffused light which were irradiated from said each exposure lamp 52 are further diffused in these heights 47, come to reach to the lens section 23, and come to be illuminated uniformly [the whole surface for the visible display 14], and vividly. In addition, if each pattern formed in the pattern drum 37 is printed in luminescence ink or fluorescence ink, luminescence lighting will be suitably carried out by the ultraviolet rays irradiated from said exposure lamp 52.

[0022] (Detection implement) As mentioned above, said detection implement 41 is for carrying out check detection of the pattern home position for every time of detection of said index 46 formed in the pattern drum 37, and has a light-emitting part and a light sensing portion in the opposite location of the concave body section 60. And as shown in drawing 7, where the background of said body section 60 is directly stuck to the front-face side of said drive base 35, it was fixed to this drive base 35, and the terminal (not shown) which extended from said light-emitting part and light sensing portion is directly linked with the detector formed in the rear-face side of the drive base 35. Incidentally the installation part (detection location) of said detection implement 41 is set in the premise by which the deactivate indication of the pattern of said pattern drum 37 is carried out to pattern halt Rhine T of said lens section 23 to the 180 backside [said horizontal-center-line X-X passing through the center of rotation of a stepping motor 36], i.e., a step angle.

[Translation done.]

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the outline front view of the pachinko machine which carried out the pattern adjustable indicating equipment concerning the suitable example of this invention.

[Drawing 2] It is the front view of the game board with which the pachinko machine shown in drawing 1 is equipped.

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[Drawing 3] It is the rear view showing the whole pachinko machine with which it is equipped with the pattern adjustable indicating equipment concerning an example.

[Drawing 4] It is the vertical section side elevation showing roughly the pattern adjustable display attached in the background of the game board.

[Drawing 5] It is the front view showing three sets of a part of pattern display units contained by the receipt interior of a room of a hold case member in the condition lining up side-by-side in the condition of having fractured.

[Drawing 6] It is the side elevation of a pattern display unit.

[Drawing 7] It is the perspective view showing the pattern display unit shown in drawing 5 in the state of decomposition.

[Drawing 8] The lighting of the pattern stopped to pattern halt Rhine by concentration light with two exposure lamps arranged in the shape of [of width 8] a character up and down and the lighting of the whole lens section by the diffused light are the explanatory views showing the lighting mode made by coincidence.

[Description of Notations]

14 A Part for Visible Display

35 Drive Base

36 Rotation Driving Means

37 Pattern Drum (Pattern Display Object)

40 Lighting Means

41 Detection Means

47 Heights

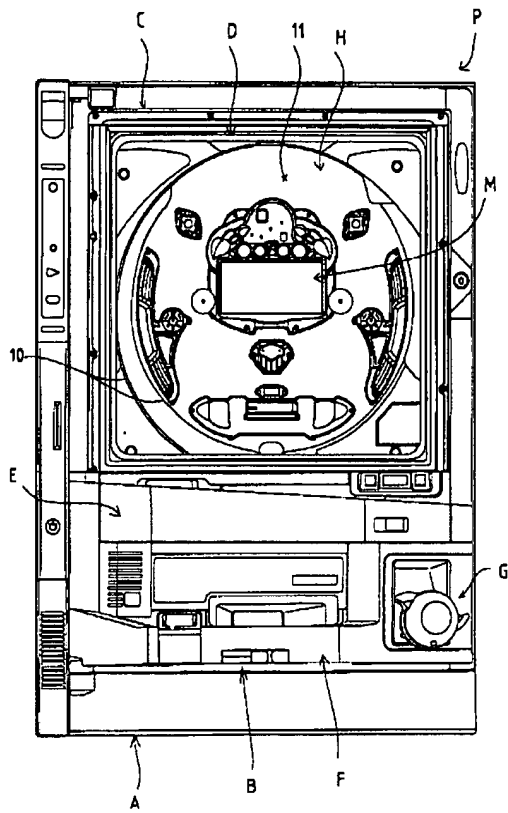
52 Exposure Lamp

57 Reflecting Plate

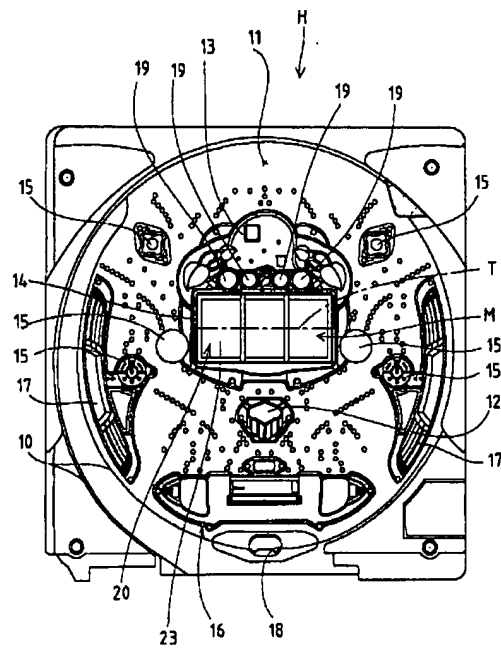
N Pattern display unit

T Pattern halt Rhine

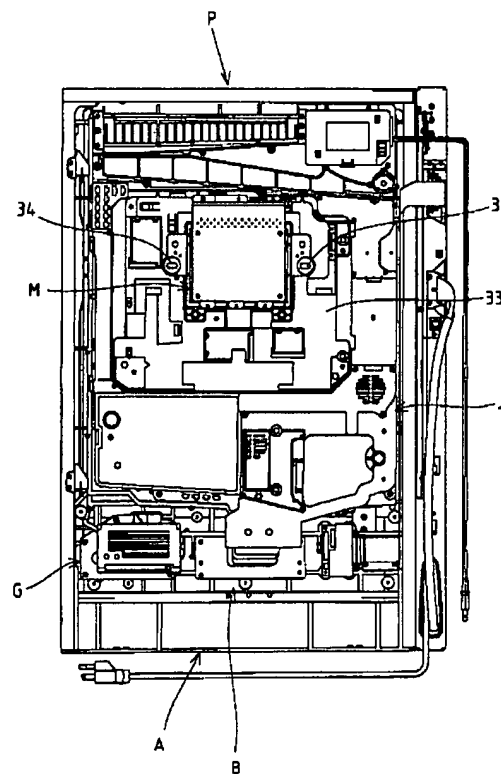
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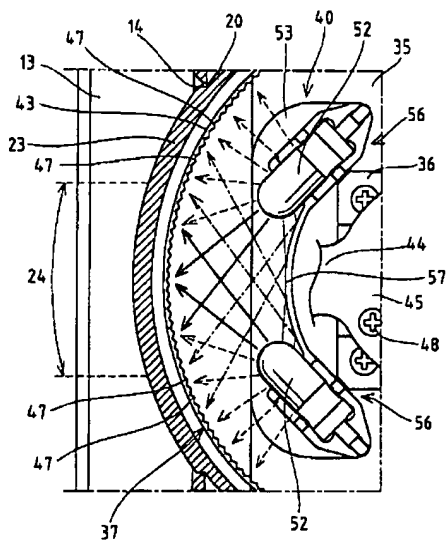
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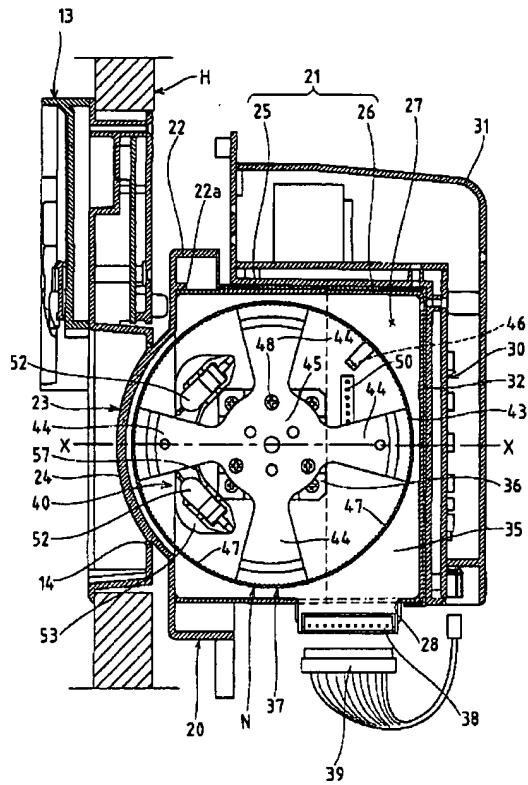
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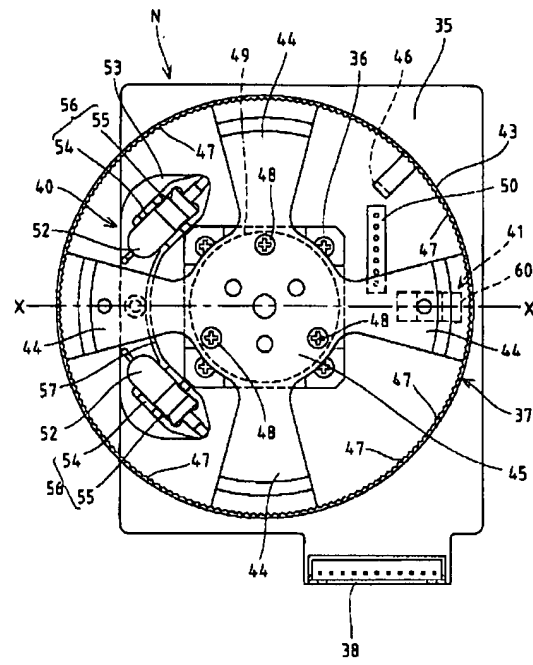
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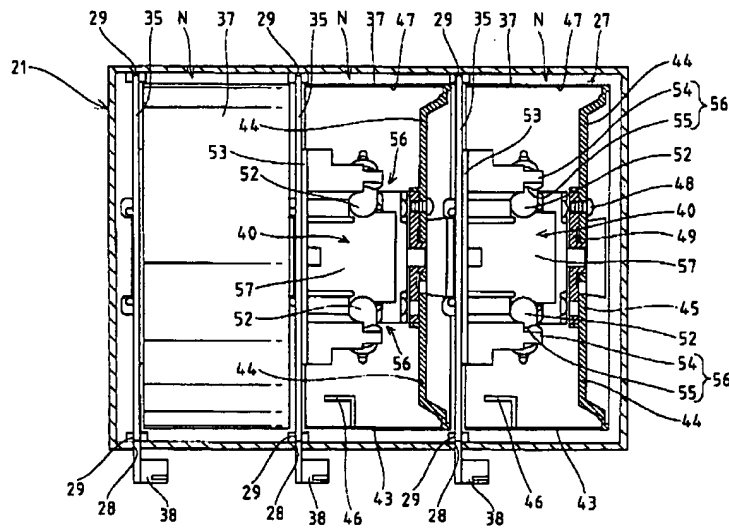
【図4】



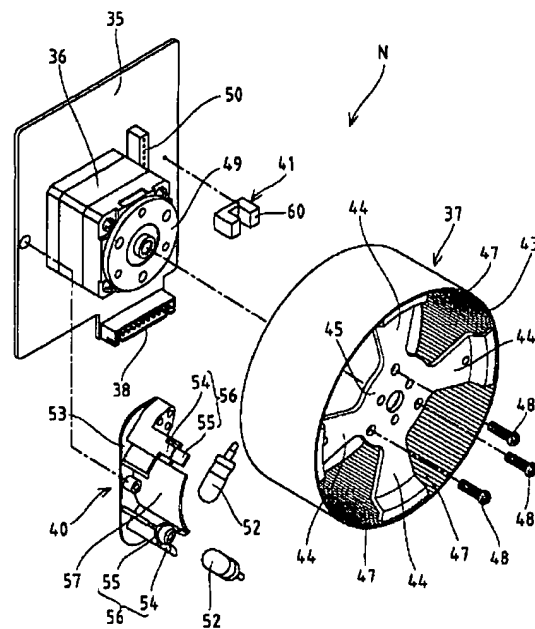
【図6】



【図5】



【図7】



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